A Markov model, based on data from randomised trials, was developed to compare the 5 alternative interventions: chlorthalidone, propranolol, amlodipine, silazapril and losartan. A cost-effectiveness analysis was performed, based on numbers-needed-to-treat (NNT) derived from a published metaanalysis. The primary outcome measure was the NNT to prevent one fatal cardiovascular disease event and the secondary outcome measure was the NNT to prevent one stroke (fatal and nonfatal). Cost data were derived from public sources. Only direct costs were considered in the analysis. All costs were calculated from the perspective of the public insurance system organisations, in 2003 Euros. Future costs and clinical benefits were discounted at 5%. The time horizon was 5 years. Sensitivity analyses tested the effect of modifying the input parameters on the economic endpoints. **RESULTS:** No significant differences in efficacy presented among drug groups in mild to moderate hypertension. The NNT for 5 years to prevent one fatal cardiovascular disease event was 135.27 patients and to prevent one stroke was just 64.05 patients. The estimated total cost to prevent one fatal cardiovascular disease event was 78,121.40€, 84,040.63€, 118,825.36€, 103,098.82€, and 168,485.60€ for chlorthalidone, propranolol, amlodipine, silazapril and losartan respectively. The estimated total cost to prevent one stroke was 36,990.28€, 39,793.02€, 56,263.50€, 48,817.03€ and 79,777.50€ respectively. Sensitivity analysis confirmed the superiority of chlorthalidone against the other antihypertensive agents. **CONCLUSIONS:** In mild to moderate hypertension, chlorthalidone is more cost-effective than propranolol, amlodipine, silazapril and losartan and should be considered as the first choice of antihypertensive therapy.

PCV20

COST EFFECTIVENESS OF ANTIHYPERTENSIVE MONO-THERAPY WITH PERINDOPRIL OR ENALAPRIL IN ELDERLY PATIENTS FROM THE THIRD PARTY PAYER PERSPECTIVE

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OBJECTIVE: To asses the economic consequences of antihypertensive treatment with perindopril and enalapril in the elderly, from the third-party payer perspective. **METHODS:** The clinical, epidemiological and economic data were derived from a scientific project conducted among GPs' in the whole of Poland, and concerned 159 patients over 65. treated in mono-therapy within the last year. Calculations were made from the third-party payer perspective. The retrospective approach was applied. The direct medical costs of: drug reimbursement, physicians' consultations, hospitalisation, laboratory and diagnostic tests were identified and calculated. Effectiveness was measured by the percentage of the patients with appropriately controlled blood pressure (BP < 140/90 mmHg) in accordance with JNC VII guidelines. **RESULTS:** The measured effectiveness of the mono-therapy was 43% in the perindopril group and 24% in the enalapril group. Cost of the hospitalisation in the perindopril group was 54.95% lower than in the enalapril group, which is equivalent to 89.52€ saved per patient per year. Physicians' consultations cost reduction in the perindopril group amounted to 15.18€ (21.59%) per patient per year. There was no significant difference in the costs of laboratory and diagnostic tests between the compared treatments (30.93€ and 27.28€ respectively). Treatment with perindopril requires additional payer's expenditure of 18.95€ per patient per year. Total costs measured from the third-party payer perspective in the perindopril group, were 30.08% lower than in the enalapril group which equalled 82.10€ saved per each patient per year. **CONCLUSION:** Taking third-party payer perspective into consideration, mono-therapy with perindopril is superior to treatment with enalapril in elderly patients due to better blood pressure control and essential savings resulting mainly from the reduction of both hospitalisation and physicians' consultation costs.

PCV21

ECONOMIC EVALUATION OF VARIOUS ANTIHYPERTENSIVE MONOTHERAPIES IN GREECE

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OBJECTIVE: The purpose of this study was to compare the costs associated with the prescription of various initial monotherapies for mild to moderate hypertension in Greece, when following 2003 European Society of Hypertension—European Society of Cardiology guidelines. In these guidelines, it is concluded that the 5 major classes of antihypertensive agents are suitable for the initiation and maintenance of antihypertensive therapy because of their similar protection against total and cardiovascular mortality. **METHODS:** A cost-minimization analysis was performed, based on numbers-needed-to-treat (NNT) derived from a published metaanalysis. An economic model was developed to compare the 5 alternative interventions: diuretics (chlorthalidone), â-blockers (propranolol), calcium-channel blockers (amlodipine), angiotensin-converting enzyme inhibitors (silazapril) and angiotensin receptor blockers (losartan). Cost data were derived from public sources. Only direct costs were considered in the analysis including the cost of drug therapy, monitoring, treating side-effects, poor compliance and switching. All costs were calculated from a third-party payer perspective, in 2003 Euros. Future costs were discounted at 5%. The time horizon was 5 years. **RESULTS:** The total cost to achieve and maintain hypertension control was 666.21€, 716.69€, 1013.32€, 879.21€, and 1436.82€ for chlorthalidone, propranolol, amlodipine, silazapril and losartan respectively. The drug acquisition cost was 20.85%, 29.98%, 53.30%, 45.65%, and 68.22% respectively. Drug acquisition cost and cost of laboratory monitoring were more than 85% of the total treatment cost for all the antihypertensive agents. Sensitivity analysis tested the effect of modifying the prices of the antihypertensive agents and laboratory monitoring, the doses of the alternative drugs and the compliance rate on the economic endpoints and confirmed the superiority of chlorthalidone. **CONCLUSIONS:** In mild to moderate hypertension, the 5 major classes of antihypertensive agents provide similar protection against total and cardiovascular mortality, but diuretics are cheaper than the others. Diuretics should be considered as the first choice of antihypertensive treatment.

PCV22

THE COST EFFECTIVENESS OF HORMONE REPLACEMENT THERAPY (HRT) FOR WOMEN WITH MENOPASUAL SYMPTOMS IN SWEDEN

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OBJECTIVES: Recent randomised studies have indicated that Hormone Replacement Therapy (HRT) does not reduce the risk of cardiovascular events neither in secondary nor in primary prevention. Evidence of the effect of HRT on breast cancer has been inconclusive, but now the general belief is that the risk of breast cancer increases. In line with the results found in the Women's Health Initiative (WHI) the cost-effectiveness of HRT therapy,

based on a societal perspective, was assessed for women with menopausal symptoms. **METHODS:** An individual state transition model populated Swedish data was used to estimate the cost-effectiveness of women with menopausal symptoms. The model consists of the following disease states: Coronary Heart Disease (CHD), Stroke, Venous thromboembolic events (VTE), breast cancer, colorectal cancer, hip fracture, vertebral fracture and wrist fracture. HRT therapy was modelled by its impact on the disease risks during therapy and possible effects after the cessation of therapy. The model calculates costs and health effects or quality adjusted life years (QALYs) with and without intervention. The resulting cost per gained QALY was compared to the value of a gained QALY, which was set to 65,000€. **RESULTS:** The cost per QALY gained for Swedish women with intact uterus and menopausal symptoms were estimated to 1404€, 1188€, and 1004€ when the therapy started at the age of 50, 55, and 60, respectively. The cost per QALY gained was found to be below the set value of a QALY at very low symptom related reductions in the quality of life. **CONCLUSIONS:** The results indicate that there is high probability that HRT is cost-effective for the treatment of women with menopausal symptoms.

PCV23

ACUTE COSTS OF STROKE IN THE UK NATIONAL HEALTH SERVICE IN 2002–2004

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OBJECTIVE: Stroke is a major cause of morbidity, health service use, and death in the UK. Previous studies report substantial associated costs, particularly related to hospitalisation. However, no previous UK analysis has used data from a population-based incidence study with full case ascertainment, without which major inclusion bias is likely. Using data from such a study, we estimate the acute costs per patient over the first year from initial stroke, by severity of stroke and prior atrial fibrillation. **METHODS:** Event and hospitalisation (inpatient or outpatient) data were obtained from the Oxford Vascular Study, a prospective cohort study of all individuals in 9 general practices in Oxfordshire, UK, which identified 346 patients experiencing a stroke from April 1, 2002–March 31, 2004. Transient ischaemic attacks were excluded. Mean costs per patient were calculated, adjusting for censoring. **RESULTS:** In all, 212 (62%) patients were admitted, the remainder being managed in the outpatient clinic. The mean censoring-adjusted cost per patient was GBP6508, 69% of which was incurred within 60 days after the index event. Patients with stroke recurrence in the study period incurred costs of £7881 compared to GBP6089 in those without. Costs in patients with prior atrial fibrillation were £9757, compared with £5687 in those without ($p = 0.028$). Patient costs by stroke severity (28-day Rankin score 0/1 = mild, 2/3 = moderate, 4/5 = severe, 6 = dead) were £1138, £7471, £18181, and £1602. **CONCLUSIONS:** We derived reliable and up-to-date estimates of acute care costs associated with stroke over the first 12 months, using data from an "ideal" population-based incidence study. The impact of severity of initial stroke and of prior atrial fibrillation on subsequent costs. Our estimates, which will be extended as follow-up continues, should be of value to analysts interested in assessing the burden of stroke and the cost-effectiveness of interventions.

PCV24

PHARMACOECONOMIC EVALUATION OF THE CIBIS-II TRIAL

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OBJECTIVES: Beta-blockers have provided evidence of improving survival in chronic heart failure (CHF) patients. Specifically, the Cardiac Insufficiency Bisoprolol Study II (CIBIS-II) has demonstrated a significant reduction in mortality and morbidity among patients with moderate to severe CHF treated with bisoprolol. Our aim was to investigate the economic consequence of bisoprolol therapy in CHF patients in Italy. **METHODS:** Data were derived from the CIBIS-II trial. We conducted a cost-effectiveness analysis, comparing standard care + bisoprolol vs standard care + placebo in the perspective of the Italian National Health Service (NHS). We identified and quantified medical costs: drug costs according to the Italian market price; specialist visits for initiation and up-titration of bisoprolol therapy and hospitalizations were quantified on the basis of the NHS tariffs (2004). Effects were measured in terms of mortality and morbidity reduction (number of deaths, life years saved and frequency of hospitalizations). We considered an observational period of 1.3 years that was the average follow-up recorded in the trial. Discounting was not performed because of the relatively short follow-up of patients. We conducted one-way sensitivity analyses on unit cost and effectiveness. **RESULTS:** The overall cost of care per 1000 patients treated for 1.3 years was estimated in 2,043,700€ in the bisoprolol group and in 2,366,168€ in the placebo group, resulting in a net saving of 322,468€. The number of additional patients alive with bisoprolol was 55 per 1000 patients, the number of LYS was 36 at 1.3 year. **CONCLUSION:** Bisoprolol therapy is dominant since it is both less costly and more effective than standard care. Results of sensitivity analysis showed that bisoprolol therapy remains dominant even to changes in unit cost of drug, hospitalizations and frequency of hospital admissions.

PCV25

SMOKING CESSATION FOR PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: The effectiveness of smoking cessation (SC) in the reduction of cardiovascular disease (CVD) risk is demonstrated. However, different options exist with variable levels of costs and effects and which one to choose for primary prevention of CVD is unclear. We evaluated the cost-effectiveness of different strategies of SC. **METHODS:** Using data from the Framingham Heart Study and the Framingham Offspring Study we built multistate life tables to model the cost-effectiveness of different SC therapies (Nurse or GP advice, nicotine substitutes (with or without GP guidance), buproprion and a combination of buproprion and nicotine substitutes) in male smokers free of CVD at baseline and aged between 45 and 65. Participants were categorized in terms of 10 years absolute risk of coronary heart disease (based on the Anderson Formulae) and age. Cessation rates, risk reduction rates for CVD and relapse rates were taken from the literature. We calculated the cost-effectiveness in terms of costs per year of life saved (LYS) using a time horizon of 5 and 10 years. A third-party payer perspective was used and cost and effects were discounted at 4%. Costs were estimated either by tariffs or market prices and costs of prevented events were taken from the literature. Finally, we compared the strategies in an (incremental) cost-effectiveness analysis. **RESULTS:** Costs per LYS for all strategies were negative at all levels of risk and age groups. SC with GP advice was most favourable, ranging from –4919€ to –3187€ and SC with buproprion the least (–3460€, –1215€). In the incremental analysis SC with nicotine substitutes alone is to be